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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,454	06/04/2001	Feridun Metin	CH9-1999-0037	3863

7590 09/20/2005

Anne Vachon Dougherty
3173 Cedar Road
Yorktown, NY 10598

EXAMINER	
DAVIS, CYNTHIA L	
ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/873,454	Applicant(s) METIN ET AL.	
	Examiner Cynthia L. Davis	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/19/2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2 and 4-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments

2. Applicant's arguments filed 8/19/2005 with respect to claims 1, 17, and 19 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments regarding claims 2, 12, 14-15, and 19-2 have been fully considered but they are not persuasive. The Aimoto reference teaches selectively discarding packets that have no contract. Service classes may be viewed as contract groups. A high service class has a contract for a high quality of service. The reference applies to the claims.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 4-10, 11, 13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa in view of Arora.

Regarding claim 1, assigning hosts to logical groups of hosts such that the hosts participating in a data communication are assigned to the same group is disclosed in Yuasa, column 8, lines 64-65, and column 19, lines 19-24 (groups are divided up and assigned priority based on the type of communication taking place among members of the group). In a switch of the network, associating each said group with a service class

indicative of requirements for forwarding data across the switch for data communications between hosts in the group, and forwarding received data across the switch in a manner dependent on the service class of the group to which hosts participating in the data communication are assigned is disclosed in column 8, line 66-column 9, line 1. In the switch, monitoring traffic congestion and disabling data communications between hosts in one or more of said groups when required based on said traffic congestion to satisfy the forwarding requirements for at least one said service class is disclosed in column 9, lines 1-2 and column 19, lines 25-29 (bandwidth is allocated based on priority, a low priority class might get no bandwidth if higher priority classes needed it. If conditions are congested, which would be discovered by the priority scheme of Yuasa, lower priority communications will be disabled). The group assignment being done dynamically for a session in response to a session request, and that the groups are associated with a service class during the session are missing from Yuasa. However, Arora discloses in column 5, lines 10-15, a system that assigns participants in a multimedia session to a temporary ELAN in an ATM system; ATM guarantees QoS on a per connection basis (Arora, column 1, lines 26-29). It would have been obvious to one skilled in the art at the time of the invention to use the dynamic groupings of Arora in conjunction with the priority-based traffic monitoring system of Yuasa. The motivation would be to improve the performance of multimedia sessions within the system (Arora, column 5, lines 29-31).

Regarding claim 4, the step of assigning hosts to a logical group comprising allocating a group identifier to hosts in that group is disclosed in figure 3, which shows

an example virtual group registration table for the system, which contains a name for the group.

Regarding claim 5, each said logical group comprising a VLAN, and wherein the step of assigning hosts to a logical group comprises allocating a VLAN identifier to hosts in that group is disclosed in column 19, lines 51-53 (a virtual group may be a VLAN).

Regarding claim 6, a said group being associated with a service class by storing data associating said identifier with that service class is disclosed in figure 3, which contains an entry for priority of the virtual group.

Regarding claim 7, inserting the identifier allocated to a said group in data packets transmitted between hosts in that group is disclosed in column 25, lines 49-59.

Regarding claim 8, for at least one said group, the identifier being inserted in data packets by hosts in that group is disclosed in column 25, lines 49-59 (the identifier is inserted into the data packets at some point in their journey through the hosts in the group).

Regarding claim 9, for at least one said group, the identifier being inserted by the switch in data packets received from a host in that group is not specifically disclosed in Yuasa. However, Yuasa does disclose in column 25, lines 49-59, the identifier being inserted into the packet. This could be done by the switch, as the switch is capable of identifying the packets before the identifier has been inserted (column 25, lines 46-49). It would have been obvious to one skilled in the art at the time of the invention to have the switch insert the identifier. The motivation would be to centralize the insertion of the group identifier into the packets.

Regarding claim 10, a high-priority service class and a low-priority service class being defined in the switch, whereby forwarding of received data from hosts in groups associated with the high-priority service class takes precedence over forwarding of received data from hosts in groups associated with the low-priority service class is disclosed in figure 3 (showing that priority levels are assigned to virtual groups) and column 19, lines 19-29.

Regarding claim 11, for at least one said group associated with the high-priority service class, calculating a transmission schedule in the switch indicating time periods for receiving data from hosts in the group such that the data received during said time periods will be forwarded by the switch in accordance with the high-priority service class, said schedule being calculated in dependence on the bandwidth required for data communications between hosts in the group is disclosed in column 19, lines 13-17.

Regarding claim 13, sending the transmission schedule calculated for a said group to the or each transmitting host in the group is disclosed in figure 3, which shows that the virtual group registration table (contained in the virtual group routing table, figure 1, element 8), which is exchanged among the nodes, contains the permissible delay time setting, i.e., the transmission schedule for the group (see column 21,lines 18).

Regarding claim 16, a plurality of different-priority service classes being defined in the switch, whereby forwarding of received data from hosts in groups associated with each of said different-priority service classes takes precedence over forwarding of received data from hosts in groups associated with any lower-priority service classes is

disclosed in class id disclosed in figure 3 (showing that priority levels are assigned to virtual groups) and column 19, lines 19-29. Disabling data communications for groups associated with one or more low-priority service classes when required to satisfy the forwarding requirements of or more higher-priority service classes is disclosed in column 9, lines 1-2 and column 19, lines 25-29 (bandwidth is allocated based on priority, a low priority class might get no bandwidth if higher-priority classes needed it).

Regarding claim 17, a switch for connection in a switched Ethernet network is disclosed in figure 1 of Yuasa, which is a block diagram pf a VLAN switch. Switching circuitry for forwarding across the switch of data received at a port of the switch is disclosed in figure 1. Memory for storing data indicative of an assignment of hosts in the network to logical groups of hosts, said assignment being such that the hosts participating in a data communication are assigned to the same group is disclosed in figure 1, element 8, which is the virtual group routing table (column 20, line 13). Control logic for associating each said group with a service class indicative of requirements for forwarding data across the switch for data communications between hosts in the group, and for controlling forwarding of received data by the switching circuitry in a manner dependent on the service class of the group to which hosts participating in the data communication are assigned is disclosed in column 8, line 66-column 9, line 1. The control logic being configured to disable data communications between hosts in one or more of said groups when required to satisfy the forwarding requirements for at least one said service class is disclosed in column 9, lines 1-2 and column 19, lines 25-29 (bandwidth is allocated based on priority, a low priority class might get no bandwidth if

higher priority classes needed it). The group assignment being done dynamically for a session in response to a session request, and that the groups are associated with a service class during the session are missing from Yuasa. However, Arora discloses in column 5, lines 10-15, a system that assigns participants in a multimedia session to a temporary ELAN in an ATM system; ATM guarantees QoS on a per connection basis (Arora, column 1, lines 26-29). It would have been obvious to one skilled in the art at the time of the invention to use the dynamic groupings of Arora in conjunction with the priority-based traffic monitoring system of Yuasa. The motivation would be to improve the performance of multimedia sessions within the system (Arora, column 5, lines 29-31).

Regarding claim 18, at least one switch which comprises switching circuitry for forwarding across the switch of data received at a port of the switch is disclosed in figure 1 of Yuasa, which is a block diagram of a VLAN switch. Memory for storing data indicative of an assignment of hosts in the network to logical groups of hosts is disclosed in figure 1, element 8, which is the virtual group routing table (column 20, line 13). Said assignment being such that the hosts participating in a data communication are assigned to the same group is disclosed in column 8, lines 64-65, and column 19, lines 19-24 (groups are divided up and assigned priority based on the type of communication taking place among members of the group). Control logic for associating each said group with a service class indicative of requirements for forwarding data across the switch for data communications between hosts in the group, and for controlling forwarding of received data by the switching circuitry in a manner dependent

on the service class of the group to which hosts participating in the data communication are assigned is disclosed in column 8, line 66-column 9, line 1. The control logic being configured to disable communications between hosts in one or more of said groups when required to satisfy the forwarding requirements for at least one said service class is disclosed in column 9, lines 1-2 and column 19, lines 25-29 (bandwidth is allocated based on priority, a low priority class might get no bandwidth if higher priority classes needed it). A plurality of hosts connected to ports of said at least one switch is disclosed in figure 4, and column 21, lines 52-65.

5. Claims 2, 12, 14-15, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa in view of Arora in further view of Aimoto.

Regarding claim 2, data communications being disabled for a said group by discarding data received from any host in that group is missing from Yuasa. However, Aimoto discloses in column 5, lines 31-36, discarding low priority traffic when necessary. It would have been obvious to one skilled in the ad at the time of the invention to discard the low priority traffic. The motivation would be to expend resources on more important traffic.

Regarding claim 12, disabling data communications outside the scheduled time periods for the or each said group associated with the high-priority service class when required to satisfy the forwarding requirements of the high-priority service class is not disclosed in Yuasa. However, Aimoto discloses in column 5, lines 36-43, selectively discarding high-priority packets if the congestion keeps increasing, in order to alleviate congestion. It would have been obvious to one skilled in the art at the time of the

invention to disable communication for a group associated with the high priority service class to satisfy forwarding requirements for that class. The motivation would be to alleviate congestion.

Regarding claim 14, the low-priority service class being defined in the switch for best-effort forwarding of received data is missing from Yuasa. However, Aimoto discloses in column 5, lines 24-30, a best-effort class of traffic that is without bandwidth reservation, i.e., is of low-priority. It would have been obvious to one skilled in the art at the time of the invention to have low-priority traffic defined for best-effort. The motivation would be to give the low-priority traffic whatever bandwidth is available after the higher priority traffic has been taken care of, and no more.

Regarding claim 15, assigning all hosts participating in best-effort data communications to one said group associated with the low-priority service class is not specifically disclosed in Yuasa. However, Yuasa does disclose in column 19, lines 25-27, treating low-priority groups in the same way by giving them longest processing time; essentially, for switching purposes, they are in the same group. It would have been obvious to one skilled in the art at the time of the invention to put all the low-priority traffic in the same group. The motivation would be to have the low-priority traffic all receive the same treatment.

Regarding claim 19, a switched Ethernet network is disclosed in Yuasa, column 5, line 3. Performing the steps of associating each said group with a service class indicative of requirements for forwarding data across the switch for data communications between hosts in the group, and controlling forwarding of received data

across the switch in a manner dependent on the service class of the group to which hosts participating in the data communication are assigned is disclosed in column 8, line 66-column 9, line 1. Disabling data communications between hosts in one or more of said groups when required to satisfy the forwarding requirements for at least one said service class is disclosed in column 9, lines 1-2 and column 19, lines 25-29 (bandwidth is allocated based on priority, a low priority class might get no bandwidth if higher priority classes needed it). A computer program product comprising computer program code means executable by a processor of a switch for connection is missing from Yuasa. However, Aimoto discloses using software to implement a switching algorithm in column 16, lines 42-43. It would have been obvious to one skilled in the art to implement this system using software. The motivation would be to have a convenient way to implement the system. The group assignment being done dynamically for a session in response to a session request, and that the groups are associated with a service class during the session are missing from Yuasa. However, Arora discloses in column 5, lines 10-15, a system that assigns participants in a multimedia session to a temporary ELAN in an ATM system; ATM guarantees QoS on a per connection basis (Arora, column 1, lines 26-29). It would have been obvious to one skilled in the art at the time of the invention to use the dynamic groupings of Arora in conjunction with the priority-based traffic monitoring system of Yuasa. The motivation would be to improve the performance of multimedia sessions within the system (Arora, column 5, lines 29-31).

Regarding claim 20, a switched Ethernet network is disclosed in Yuasa, column 5, line 3. Assigning hosts to logical groups of hosts such that the hosts participating in a data communication are assigned to the same group is disclosed in column 8, lines 64-65, and column 19, lines 19-24 (groups are divided up and assigned priority based on the type of communication taking place among members of the group). Associating each said group with a service class indicative of requirements for the group and forwarding data across the switch for data communications between hosts in the group, and controlling forwarding of received data across the switch in a manner dependent on the service class of the group to which hosts participating in the data communication are assigned is disclosed in column 8, line 66-column 9, line 1. Disabling data communications between hosts in one or more of said groups when required to satisfy the forwarding requirements for at least one said service class is disclosed in column 9, lines 1-2 and column 19, lines 25-29 (bandwidth is allocated based on priority; a low priority class might get no bandwidth if higher priority classes needed it). A computer program product comprising computer program code means executable by a processor of a switch for connection is missing from Yuasa. However, Aimoto discloses using software to implement a switching algorithm in column 16, lines 42-43. It would have been obvious to one skilled in the art to implement this system using software. The motivation would be to have a convenient way to implement the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L. Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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9/8/05

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600